

## A good week for California water supply, Astronomical Dates, and a quick Christmas Forecast

The third in a series of storms is on our doorstep. Yesterday's was the strongest thus far, leaving between 1" and 5" of precipitation across the state. No area, other a few lee-side Sierra locations and the deserts, stayed dry. (Note; the reason we science types refer to 'precipitation' is that some areas receive rain, others snow. Precipitation is a way to cover whatever occurs by giving it one name. Snow totals may range from 5 to 10-12 times the rainfall amount, depending on temperature and moisture conditions during a storm. For example, a nice cold storm of 3" of precipitation may result in 3 feet of powdery snow. These newsletters will provide all types of measurements, if they are available and of note).

Yesterday's system was windy, wet, and a good snow producer. It also gave the central and southern California coasts heavy rainfall. Tuesday's storm recap:

Southeasterly peak wind gusts were Beale AFB; 29mph, Monterey; 20mph, Blue Canyon; 25mph, Arcata; 23mph, Fairfield; 31mph, Chico; 32mph, Siskiyou; 40mph.

Snow/ski reports were 16" at Sugar Bowl, 12" at Mineral, and 16" storm total at Mammoth Mtn. The snow level fell to approximately 4,500, with Blue Canyon picking up 2.9" of precipitation, with about 12-13" of snow.

Northern California Rainfall totals for the 24 hours ending at 8am this morning (Weds):

Feather River Basin area average	1.7"
Shasta Dam	1.0"
Redding	0.76"
Grass Valley	1.67"
Sly Park	1.04"
Konocti	0.41"
Orangevale	0.44"
Mt. Diablo	0.80"
Loma Prieta	1.31"
Pine Grove	1.20"

Central Valley amounts ranged from one quarter to nearly an inch. From Steve Johnson's Weather letter; Fresno's 0.97" was the maximum there since January 2, 2006, when they had 1.88". The Central and Southern Sierra received between 1.5" and 3", giving a nice boost to snow sensor gauges.

The Southern California coastal totals were substantial. According to Santa Barbara counties' San Marcos Pass rain gauge, 6.93" of rain fell in one day. Other areas across Ventura and Santa Barbara counties received between 3 and 5" of rain. This bulls-eye of heavy rainfall was a combination of strong orographic enhancement and an old frontal boundary lingering from Monday morning. Luckily, and surprisingly, no major mudslides took place. But Santa Barbara Co. Public Works reported minor flow out of the Zaca burn area, with 1–2" of rain. Orange Co. opened their Emergency Operations Center for a time yesterday. All emergency managers remain vigilant about watching for flash flooding over the large So-Cal burn areas. The total size of the 2007 SoCal wildfires was over 12 hundred square miles, and covered 14 individual water sheds. It may be a couple of seasons before those areas are re-vegetated.

The 8-Station Northern Sierra Precipitation Index has jumped to about 66% of average for the season. Not bad, considering it stood at about 59% prior to this round of storms.

On to the current forecast. The next cold front is moving across California as this letter is being written. It will make slow progress, with a deep cold trof developing. Lower snow levels are likely with this system, but its footprint will not go as far south. This shortwave (front) has similar moisture availability as the last one, but it is colder and faster.

Snow levels in the Shasta area will be 3,000' tonight, down to 1,500' Thursday as the front exits. Over the Northern Sierra, 3 feet of snow are possible above 7,000' north of I-80. The cold bulldozer of air behind this front will drop snow levels to 2,500' over the North Bay Hills early Thursday. So dusting of low snow is definitely possible with this one. The Central and Southern Sierra is forecast to pick up from 1" to 1 1/2" of precip. For the latest watches and warnings, the best overall view is the CNRFC (California Nevada River Forecast Center) weather summary page. This is a great bookmark to save for all winter storm monitoring:

<http://www.wrh.noaa.gov/cnrfc/warnings.php>

The system clears quickly Thursday afternoon/ evening from north to south, leaving a winter chill. It looks mainly dry Saturday, so yes, if you are ready to ski, this would be the weekend! The next front Saturday night may bring light snow, but is not a big road hazard. It may not even get to 80 or 50. Another weak front moves through on Christmas Eve.

Christmas Day should be dry across all of California, other than the far northwest. If models hold out, it won't rain in Sacramento. But by evening, another front swings into

the north coast, and Russian/Napa River basins. A fairly large storm will brew up on Christmas over the eastern half of the country, though. This may ripple flight delays, especially if it turns into another ice storm.

Astronomical Notes:

The Winter Solstice is at 10:08pm local time, Friday, December 21st.

Biannual astronomical high tide; midday, December 23 at Golden Gate, and on December 24th through the Delta.

HAPPY HOLIDAYS from all of us in the Weather and Climate group at DWR!

Look for another newsletter on or about December 26.

(EL)

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